Computer Engineering

Introducton

The Computer Engineering program at UW-Stout is ideally suited to meet the needs of regional and national industries by providing computer engineers with a strong background in both electrical engineering and computer science. Graduates of this program are equipped to work with both hardware and software aspects of computer systems.

Demand for computer engineers is strong, as computer systems of all sizes — from computer chips in cellular telephones to computer-controlled equipment in large manufacturing environments — are ubiquitous in present-day society.

UW-Stout's Computer Engineering program is a calculus-based program which progresses from solid foundations in mathematics and science through analysis and design. The program includes a strong emphasis on laboratory activities and student engineering design projects, with a particular focus on the design of hardware and software for engineering systems that utilize embedded digital processors such as microprocessors, microcontrollers, digital signal processors and personal computers.

General Requirements
Bachelor of Science Degree

Total for graduation	131
General Education	43
Major Studies	87

Program Requirements

General Education

43 credits required

A. Communication Skills — 8 credits

ENGL-101	Freshman English – Composition *or*	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing *or*	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning — 8 credits

MATH-153	Calculus I	4
MATH-154	Calculus II	4

C. Health and Physical Education — 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts — 9 credits

PHIL-235	General Ethics	3

Remaining credits must be from two or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, and performing arts.

E. Social and Behavioral Sciences — 9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) — 5 credits

CHEM-135	College Chemistry I	5

G. Technology — 2 credits

Major Studies

87 credits required

Mathematics and Basic Sciences — 19 credits

MATH-XXX	Discrete Mathematics	3
MATH-250	Differential Equations With Linear Algebra	3
PHYS-281	University Physics I	5
PHYS-282	University Physics II	5
STAT-330	Probability and Statistics for Engineering and the Sciences	3

Engineering Core — 14 credits

CEE-205	Circuits Analysis and Design	4
INMGT-300	Engineering Economy	2
MECH-293	Engineering Mechanics	3
MECH-294	Mechanics of Materials	3
MFGE-275	Thermodynamics and Heat Transfer	2

Computer Engineering — 55 credits

CEE-225	Digital Logic	3
CEE-2XX	Signals and Systems	3
CEE-3XX	Electronic Circuits	4
CEE-3XX	Digital Systems Design	3
CEE-3XX	Microprocessors	3
CEE-3XX	Data Communications and Computer Networking	3
CEE-3XX	Fundamentals of Controls	4
CEE-3XX	Electromagnetic Wave Propagation	3
CEE-4XX	Digital Signal Processing *or*	
CEE-4XX	Fundamentals of Wireless Communication	3
CEE-4XX	Embedded Systems	3
CEE-4XX	Senior Design Project I	2
CEE-4XX	Senior Design Project II	2
CS-144	Computer Science I	3
CS-145	Computer Science II	3
CS-244	Data Structures	4
CS-245	Introduction to Computer Organization	3
CS-441	Computer Architecture	3
CS-442	Systems Programming	3